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ABSTRACT

This paper reviews research reported in the last 10 years on the effects of day care on children and their families. The review is organized around the following areas: attachment and emotional development; psycho-social development; intellectual and cognitive development; health and nutritional effects; the effect of caregiver stability; the effect of day care on later school functioning; and characteristics related to sex-typing. In general, research indicates that high quality day care appears to have little harmful effect on the attachment relationship between mother and child. Although some studies have found higher scores on positive social skills in home-reared children, most evidence indicates that day care has a positive effect on social development and adjustment to new environments. The research also suggests that social behavior may be significantly related to the developmental age of the child. In the intellectual domain, little positive or negative effect can be attributed to day care. With disadvantaged children, however, day care attendance appears to offset decline in test scores. No strong conclusions can be drawn from the limited research in other areas with the exception that quality day care appears to be related to caregiver stability, staff/child ratio, and level of staff education and related experience. (Author/MP)

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THE EFFECTS OF DAY CARE

A LITERATURE REVIEW

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ABSTRACT

Jay Belsky, in critically reviewing the literature on the effects of day care up until 1978, concluded we still knew "shockingly little" about its impact on children, parents and society. He attributed our ignorance to our near-exclusive reliance on standardized tests of intellectual and social development, on studies of only high-quality, university-based day care, and on our narrowness of scope. This paper reviews the research reported since Belsky's review and evaluates it in light of the limitations he observed. The review is organized around these areas: attachment and emotional development, psycho-social development, intellectual and cognitive development, health and nutritional effects, the effect of caregiver stability, the effect of day care on later school functioning, characteristics related to sex-typing and finally, the effects on the family.

PREFACE

In the last decade, research on the effects of day care increased substantially. Jay Belsky critically reviewed the literature published up until 1978 and concluded that we still know "shockingly little" about the impact of day care on children, parents, and society. He attributed our ignorance to our near-exclusive reliance on standardized tests of intellectual and social development, on studies of only high-quality university-based day care, and on our narrowness of scope. This paper will review research reported in the last ten years with particular emphasis on the findings accumulated since Belsky's review. An effort will be made to evaluate the most recent research in light of the limitations Belsky observed in 1978 and to assess whether his concerns have been addressed.

Given the present economic climate and the increasing pressure on the American family for both parents to seek employment to meet their financial obligations, a review of one of the expanding and necessary child care alternatives, the day care center, seems particularly timely.

The following review is organized around these areas: attachment and emotional development, psycho-social development, intellectual and cognitive development, health and nutritional effects, the effect of caregiver stability, the effect of day care on later school functioning, characteristics related to sex-typing and finally, the effects on the family.

ATTACHMENT AND EMOTIONAL DEVELOPMENT

One of the primary issues addressed by day care research is whether and how day care attendance affects the strength of mother/child, child/mother attachment. Are there obvious adverse effects of infants' daily separation from their mothers and if so, what are they? In most studies, some version of Ainsworth and Wittig's strange situation experiment (1969) was used to assess attachment. This experiment, through a series of separations and reunions with the mother in a lab setting, in the presence or absence of a stranger and in some cases caregiver, assesses the child's proximity-seeking and attention-seeking behavior and her/his level of anxiety. A child's reactions to these "strange situations" gives insight into the mother/child relationship. (Blanchard 1979, Blehar 1974, Caldwell 1970, Cornelius 1975, Cummings 1980, Doyle 1975, Moskowitz 1977, Portnoy 1978, Roopnarine 1978)

Only one study (Blehar 1974) found adverse effects of repeated daily separations on qualitative aspects of established attachment relationships. The findings for a group of forty middle-class white children 3-4 years of age, indicated that day care children interacted less with mothers across a distance before separation, cried more, and showed more avoidance of the stranger than did the home-reared children. Attempts have been made to replicate this study but these same results have never been produced. Moskowitz

(1977) examined the effect of several months of day care experience on children who entered day care at three, comparable to the older age group in Blehar's investigation. A time-sample of child behavior was done and ratings on seven scales assessing a child's social behavior was made. The results indicated that there were few differences between the home-care and day care samples but that day care children exhibited less stress as well as less interest in the novel adult. The home-care group looked more at the stranger, cried more when alone and had a higher distress composite score.

Roopnarine (1978) sought to discover whether significant changes in attachment behavior of young children before and after day care treatment occurred, and if so, did they resemble the changes found by Blehar. Her subjects included 23 white affluent three year olds, half from a day care center, the other half of the sample population gathered from the center's waiting list. She noted that before the day care experience, the day care population was more concerned about brief separations than the home-care group, but these differences disappeared after group care. The home-care group's behavior did not change across time. This initial difference was not expected and was probably due to the anxiety in preparation for group-care. Her results suggest that day care does not have predictable adverse effects on the mother/child relationship.

Portnoy (1978) partially replicated Blehar's study and in addition, explored the possible effects on attachment related to attendance in family day care prior to enrollment in group care. Three groups of children were used: Group 1 consisted of children receiving full-time care at home. Group 2 consisted of children who remained home til the age of three and then entered day care, and Group 3 consisted of children home until around the age of one who then were placed in family day care and finally entered group care around the age of three. The results failed to support the hypothesis that different patterns of attachment will be found for children with different rearing histories.

Doyle (1975), using the Ainsworth-Wittig measure, reported results contrary to Blehar also. The only difference in this study of home-reared and day care reared children was that home-reared children looked more at the stranger than did day care reared children, perhaps because the presence of a stranger was more of a "novel" event for this home-reared group. There was no evidence to indicate that there was a weaker or less secure attachment to the mother.

In Kagan's study (1977) of chinese and caucasian children, 3.5-29 months old from working class and middle-class families matched for ethnicity, social class and sex, he observed no differences in the attachment relationship. There was an overwhelming preference of all children for their mothers and

protest at their departure during the separation episode indicating no differences between the groups at any age. He did observe that separation distress is a function of growth and is monitored by a child's level of cognitive development.

Cummings (1980) in using the strange situation to determine whether the consistent physical presence of one caregiver contributed to the liklihood of a child/caregiver attachment, observed that even when the caregiver was stable (having had more than 700 hours at the center), the child still preferred the mother to the caregiver in the strange situation experiment. Farran (1977) also attempted to measure the attachment behavior of a child toward her/his mother and caregiver. Twenty-three black infants of a low socio-economic background were videotaped in a room in which the mother, caregiver and stranger were all present. The infants and toddlers spent significantly more time in the mother quadrant of the room and mothers were the preferred help giver in the structured problem situation. No studies had previously been recorded with this population to assess attachment. These conclusions further support the accumulating evidence that day care attendance does not harm the mother/child attachment relationship.

Blanchard (1979) sought to determine whether behaviors exhibited in the lab setting during the strange situation experiment were significantly related to behaviors, particularly avoidance behaviors, occurring in the day care

centers themselves. Twenty-one middle class white infants in a high quality center were observed during three separate reunions with parents and a narrative record of their social and emotional behavior was kept. Scores in the field approximated those in the lab indicating that the attachment relationship was intact and that a greater social emotional adjustment apparent in the day care situation took place as the length of time in group care increased.

Finally, Rubenstein (1979), in her study of caregiver and infant behavior of 30 white children, 18 months of age, in day care and in homes, concluded that no obvious adverse effects of infants' daily separation from their mothers occurred. She suggests that all infants have self-comforting behaviors which they use and that peers can mitigate the effects of separation from their parent, therefore emphasizing the need for a stable peer group in infant care.

Blehar, herself, offers suggestions that might account for the discrepancy between her findings and Caldwell's specifically. She offers that the staff of Caldwell's center may have provided such highly individualized care that the relationship with the substitute caregiver compensated for the adverse reactions of separation. Also, children accustomed to group care from infancy might not suffer from the disruption of the primary relationship. Finally, Blehar had personal contact with the mothers in her study and her observers knew

the hypothesis before they did their observations.

The findings of these studies of attachment behavior of children in day care very strongly suggest that disruption of the mother/child bond is not likely to occur. We must consider, however, that the majority of this research was conducted on a short term basis in high-quality centers with white, middle class children. The Farran study is the only one to examine the effects on low socio-economic status children and the only one with an emphasis on a black population. Caldwell's study included low-income children but the center was of very high quality. It should also be noted that the samples from these studies are small as well, and might not truly reflect the spectrum of possible effects of full-time care on the attachment relationship.

Also significant is the number of studies that measured attachment by using the Ainsworth-Wittig instrument. The validity of this experimental tool must be questioned. The strange-situation is designed to be used in a lab setting and might not be sufficiently sensitive to differentiate effectively children with different levels of attachment. Attachment behavior in an unfamiliar environment, the lab, might not be a good indicator of behavior in a familiar ongoing situation. We must also ask how much of the attachment relationship is a function of social class or culture. More observational research of parent/child interactions

within the natural environment of the center is necessary to assess the attachment relationship.

Some other factors to consider when assessing attachment are, first of all, the relationship between the stimulation provided at home and the child/mother bond. Behavior of the child before entering day care and an investigation of parental characteristics before and after their child entered day care might also shed light on parent/child attachment. Anxiety exhibited at separation might have more to do with a particular maturation level rather than a child's experience and therefore, have little to do with attachment itself.

Finally, it might be useful to know what specific conditions are most likely to minimize potentially disruptive effects on the mother/child relationship when children first begin group care.

Despite the reservations and suggestions mentioned above, we can conclude from the research reported, that high quality day care does not harmfully affect the mother/child relationship. Nor is there any indication that an attachment between a primary caregiver and a child will replace that primary attachment bond, the one a child has with its mother.

PSYCHO-SOCIAL DEVELOPMENT

Given that we are a society that values the ability of individuals to relate well with others, it is no surprise that a large body of day care research has explored the socialization processes occurring there. Do children develop differently in group care than they would develop at home in the areas of peer relationships, acquisition of adult-like behavior and relationship to authority? Belsky's review mentions four studies conducted in the United States that concern themselves with peer relationships. (Ricciuti 1976, Kagan 1976, Cornelius 1975, Doyle 1975)

In Doyle's study, peer interactions were measured by matching two unacquainted infants and toddlers, one from the center and one from the home group, and time-sampling their behavior (physical contact, contact through toys, vocalizations, gestures, receipt of an interaction, parallel or solitary play and onlooker behavior) while they played for ten minutes in a toy-equipped room. The tone (positive, neutral or negative) and object (mother, child) of a social contact were also noted. The peer interaction behaviors of center and home children differed in only one respect in this study: center children initiated fewer social interactions, both positive and negative, than home children. ($p<.02$)

Howes, whose study was not mentioned in Belsky's review, (1978) compared a family day care environment to a group setting for an assessment of toddler social behavior.

Only one signifcant difference was noted: that toddlers in family care had higher scores on positive social skills and responsive talk. Few actual differences in peer interaction occurred. The total percentage of time toddlers engaged in talk directed at adults was 12% for day care centers, 20% for family day care, and 30% for home-reared children. Family day care also had higher scores on restrictive and negative behavior. Although the more restrictive nature of the family setting might be detrimental, neither group appeared very negative. The implication of Howe's research suggests that individual variation within day care settings may be more important than the type of day care.

The conclusions Cornelius (1975) drew from his study indicate sex-related differences in peer interactions and will be mentioned later on in this review. Contrary to the findings of Doyle, and more recently Howes, in Ricciuti's experiment, day care infants (12-19 months) moved farther away from their mothers and maintained a greater distance during the observation period in the presence of a peer. Day care infants were also more visually oriented towards other children, less oriented toward their mothers, and engaged in less sustained physical contact with their mothers than home-reared infants. Kagan (1976) reported that home-reared 20 month olds showed a greater increase in their proximity to their mothers and were more apprehensive than group-reared children. Both of these studies challenge the findings of Doyle and Howes on peer social interactions in day care. The data

examined by Kilmer in her review (1977) on "Infant-Toddler Group Day Care Research" also indicates that peer interaction occurs more in day care-reared than home-reared children.

One of the purposes of Finkelstein's study on the "Social Behavior of Infants and Toddlers in a Day Care Environment" (1978), a study not reported on by Belsky, was to examine age changes in children's social behavior with teachers and peers. After observing the social interaction behavior of 27 black infants and toddlers of low socio-economic status at 9, 10, 11, and 12 months, he noted that toddlers were significantly more responsive to teachers and peers than were infants. Social orientation and peer responsiveness apparently increases over the preschool years. The increased avaliability of peers provided by day-care attendance, although offering greater opportunity for peer interaction, does not by itself, produce a predominance of peer interactions over adult-child interactions.

Johnson's findings (1979) further support those of Finkelstein - that social behavior is primarily developmental and more a function of age. Although in her study of 15 matched pairs of white middle and upper class 36-47 month olds she did find differences in the home and group-care populations, these findings were relatively insignificant. She reported that day care children engaged in more cooperative play, explored and sought information more than home-reared children, and that home-care children spent more time procuring a service, eating or conversing with an adult. She

observed, however, that both groups spent two-thirds of their time in non-social tasks, and that just by the nature of day care, more demands to be cooperative were made on the child. She suggests that the social-related behavior of young children may be more a function of numbers than the type of setting, be it home or group care. Kagan (1977), who found no support for the notion that day care children are more aggressive or more cooperative, also reports that although it might be reasonable to assume that daily encounters with other children during the first two years might speed up the maturation of the social interaction sequences usually seen in three and four year olds, his data did not support that assumption.

A recent study by Rubenstein (1979) who attempted to describe and compare the experiences of middle class infants in community based group care and those raised at home, suggests on the other hand, that social competence and object competence are furthered by group care. Despite the small sample, the data collected from observations of thirty matched white 18 month olds observed for 2 1/2 hours on two separate days does not support a generalization that center or homes, on the whole, provide a more stimulating environment. Verbal and cognitive stimulation, adult interaction, infant contact with toys, degree of adult responsiveness to infant social behaviors, and positive adult response to infant overtures all produced comparable results for the home

and center-reared groups.

But her data did suggest that the social context of infant group care might be more pleasurable for all involved than the isolated home. The frequency of play interaction (child and adult) was higher in day care - the infant initiated more play and the adult responded more to the infant's initiatives. After all, a caregiver's sole purpose is to respond to children where a mother in a home has many more responsibilities. And, peers appeared to raise the competence level for infants interacting with the inanimate environment. The social context elevated the developmental level of the play. Peers also reduced the infant's dependence on the adult caregiver which is thought at least in the short term to be positive. The significance of Rubenstein's study lies with the fact that it suggests the importance of the infant in shaping and influencing its own environment.

J. Conrad Schwarz, in 1974, observed the behavior of two groups of three and four year olds who differed markedly in prior day care experience as both groups entered a new day care center at Syracuse University. One group had been in a high-quality infant day care program continuously from about nine months of age. The matched group had no regular day care experience. A preschool behavior rating form developed by Grossman and Levy (1968) was used over a four month period and differences in the two groups were found

on only three of the nine traits rated. The day care group was found to be less cooperative with adults, more physically and verbally aggressive with peers and adults, and more inclined to run about than the group new to day care. Eight months of day care experience did not tend to make the new group similar to the group that started day care in infancy. No significant differences were found in the ability to get along with peers, spontaneity, or intellectual competency.

Maccrae (1974) replicated Schwarz's study in a different program with younger children, two year olds. The matched pairs differed in the amount of time they had spent at the center - 13 months and 1-6 months. Four caregivers rated the children using the same traits as Schwarz. The infant group was found to differ from the new group on ability to get along with peers, problem solving, ability to abstract, and planfulness. In each case the group who had been in infant day care was rated as having more of the trait than the group that was new to day care. None of the differences found to be significant in Schwarz's study were significant in Macrae's. And cooperation with adults and ability to get along with peers which was stated significant in one setting showed a trend in the opposite direction in the other setting. The differences observed in these two studies cannot be explained easily and suggest the need for more

research in this area.

Although Schwarz in his 1974 study suggested that early day care experiences may slow acquisition of some adult cultural values (uncooperativeness, verbal aggressiveness), his study of the same population's adjustment to a new environment (1973) indicates that infant day care does not lead to emotional insecurity. The children were rated on the first day in the new center and five weeks later on affect, tension, position, and action. The sample with early day care experience exhibited more positive affect upon arrival than their matched pairs. Higher social interaction scores for the early group remained even after five weeks.

McCutcheon (1976) also addressed the question of adjustment in the initial weeks after entering a day care setting. Nineteen 5-30 month old racially mixed children were observed over five days as they entered and left the day care center. The observation was repeated a month later. The results indicated that crying decreased in the month as did sitting alone. There was no significant difference in smiling behavior or frequency of playing alone, and interactions with other children and adults increased in the one month period. These changes reflect an increased adjustment in both social and emotional areas of behavior and support the findings of Schwarz (1973) that day care experience does not lead to emotional insecurity.

The research on the psycho-social development of children in group care suggests that day care has little negative effect on the child. The data further indicates that

children do adjust well to day care over time and that social interaction is, for the most part, higher in group care. Studies give strong indication, however, that social behavior might be more a function of age than of type of care afforded the child. It further indicates that what differences do occur between children raised in homes or centers might be moreover a function of the specific aspects of the program the child is exposed to.

Two areas of psycho-social development need to be further explored in the context of day care. Further research of a comparative nature is necessary between the effects of family versus center care, specifically, what are the interaction levels of adults in both settings and at what point is peer interaction hindered as a result of group size. Finally, no longitudinal studies exist that attempt to examine the long-term effects of group care on children. We need to examine the effect of care from infancy onwards and the effects on children having experienced day care once they are settled in elementary school. The research to date has still been limited to a small population and more extensive research is necessary.

HEALTH AND NUTRITION

Little effort has been made in the last ten years to compare the quality of home care versus group care in the areas of health and nutrition. Only three studies addressed themselves to these issues.

In Anna Beth Doyle's study of "Infant Development in Day Care" (1975), the frequencies of child illness (infectuous disease, rash, fever, constipation, flu, colds, and ear infection) were assessed in four semi-monthly telephone calls to the home. In this study, children who had attended an infant section of a day care center for seven months (center group) were matched in age, sex, parental education, parental occupation and number of siblings with children experiencing maternal day time care. Twenty-four children from five to thirty months participated. Of the seven illness categories, flu was reported significantly more frequently in center than in home children (p .05)

Golden reports on nutrition and health in The New York City Infant Day Care Study (1978), a large-scale interdisciplinary comparative study of licensed service-oriented, publicly and privately funded, community sponsored group and family infant day care programs which involved 400 children, 90% of whom were from low-income black families. This study found that the foods provided in group care were more nutritional. A more balanced diet was offered with less

"fast" and "junk" foods served. This was probably a result of the supervision given to the purchase and preparation of food in children's centers. Although fewer safety hazards existed in group care because the environments were designed for children, there were few differences in the safety practices of caregivers in homes or centers. Better health care was available in the center due primarily to the effort to immunize infants, yet both home and center follow-up care of medical problems was poor.

Finally Kilmer (1977) reports in her review of infant-toddler group care, a paper reviewing research done in the United States and Canada, that although more minor respiratory illnesses, diaper rash, colds and runny noses occur in center children, little evidence supports the theory that serious medical consequences occur as a result of group care. She also reports that no difference in height or weight were recorded for group-care versus home-care children.

Clearly, more research is necessary on the quality of health care offered group-reared children. Nutritional standards need to be assessed as do the incidences of accidents and the follow-up care provided in the home versus the center. Another aspect of center care worthy of evaluation is the effect on the children involved if their center provided care for sick children on the premises.

INTELLECTUAL AND COGNITIVE DEVELOPMENT

Most day care research investigating the intellectual and cognitive development occurring in day care has been limited to high-quality, university-based centers. Standardized tests (The Bayley Mental Development Scale, Stanford-Binet, and the Peabody Picture Vocabluary Test) have been the measurement tools used. Although the findings are severely limited by use of only these methods, there appears to be little effect, positive or negative, of day care on the intellectual development of the child. Evidence has been overwhelming, however, that for economically disadvantaged or at-risk children, day care can off-set the decline in standardized test scores usually associated with this population. Virtually no studies have been conducted since Belsky's review in the area of intellectual and cognitive development. Therefore, several studies mentioned in Belsky's article will also be reviewed here.

In Doyle's study, "Infant Development in Day Care" (1975), intellectual development was measured by the Battell Infant Intelligence Scale. The mean IQ of the center group was significantly higher than that of the home group ($p < .05$). Although this does not confirm that the higher scores were a result of the seven months of day care experience of the children in this study, it is clear that day care did not hinder intellectual development.

One study (Robinson 1971), sought to determine whether enriched group care enhanced cognitive development especially when verbal abilities begin to emerge. During the two-year study of 32 children in a pilot center offering comprehensive services (health care, academic enrichment) from infancy on, the center population was matched with two separate control groups, one followed from early infancy onward and compared with the center infants, the other tested only once and compared with center children who were at that time 2 1/2 - 4 1/2 years old. The Bayley mental and motor scales and behavior profile were administered every three months to infants up to 18 months old. The testing of children over two was done using the Stanford-Binet and the Peabody Picture Vocabulary Test. A significant trend was found over time on only the mental scale for infants: an initial rise for both groups was followed by a drop for the control group at 18 months. For the older group tested, significantly higher IQ scores were found for both the Stanford Binet and The Peabody Picture Vocabulary Test for the black center group. White center children also obtained higher scores but of less significance. The white population was considered by an assessment of parent education and income to be more "advantaged" than the black group. Although the crucial variables - education and health - cannot be identified or separated in this study, the "package" made a significant difference in the scores of the disadvantaged population.

Caldwell in her article on attachment (1970) further offers that programs can exist which circumvent developmental decline without damage to the mother/child relationship. Vroegh (1976) reports in her study of working class children in homes and in centers with no formal educational curricula, that when rated every six months by an adult responsible for their care, day care children had a slight advantage on the comprehensive-conceptual variable.

The New York Infant Day Care Study (Golden 1978) is the only large-scale study that addressed the question of intellectual development that did not restrict its sample to university based, high-quality care. Further support for the prevention of low test scores provided by day care in economically disadvantaged children can be found here. In this five-year longitudinal study of over 400 children from homes, family day care and center programs, children cared for outside the home between the ages of 2 and 14 months, scored higher on the Bayley Mental Development Index than family or home-cared for children at 18 months. This difference remained significant at 36 months suggesting that there are intellectual benefits for infants from high risk populations of enrollment in day care.

Prentice (1970) sought to determine whether initially significant gains in intellectual growth would be maintained following extended participation in a traditionally oriented day care program. Her sample of black and chicano children in day care at least one year were matched with children there less than six months. Fifty-seven of the "older"

children and 38 of the "new" ones were retested nine months later. At both times, giving the short form of the Stanford-Binet and Goodenough's Draw-A-Man Test resulted in no significant differences on the pre- and post-tests for children in the program an average of 23 months. There was even a slight drop in the Stanford-Binet scores over time. The "new" children, in the center an average of 12 months, showed a significant gain on both post tests. No consistent pattern was ascertained, however, of these types of cognitive processes showing change, suggesting that the enhanced competence in performance tasks resembled improved ability to take the test, not cognitive growth.

Two literature reviews mention the effects of day care on intellectual development. Ricciuti (1976) claims that there is no evidence that day care has adverse effects on the intellect yet he stresses the need for examination of low quality centers in this area. There is also little or no evidence that day care can enhance intellectual development when home environments are normal. Kilmer (1977) agrees with Ricciuti, however, that day care can help prevent the decline in test performance in low income or environment-at-risk populations.

Several limitations exist in the research on intellectual development in day care. First of all, research is obviously needed in centers offering other than model programs. The nature of the environment, particularly the nature of the

caregiver or parent role in that environment, needs careful study. What is the effect on children, for instance, of exposure to daily adult models engaged in everyday activities (shopping, cleaning, reading) or work situations (barber, shopkeeper, mailperson) versus time spent with an adult whose sole activity relates to the needs of that child? How does this affect functional intelligence? Furthermore, we need to assess the effects on family day care in comparison to group care. Are different areas of intelligence furthered in each environment? Finally, more observational research and/or improved measurement tools are necessary in light of the limitations of existing standardized research tools. Kagan suggests, for example, that the Bayley Infant Scales are not sensitive enough to pick up subtle aspects of cognitive development in the first year of life. The validity of intelligence tests, themselves, have also been seriously questioned.

LATER SCHOOL FUNCTIONING

Only one study appeared in the day care literature of the last ten years that addressed the issue of later school functioning. It must be stated, however, that no effort was made in this review to report findings from studies of Head Start and Nursery School programs on the effects of these programs on later school success, which one must conclude, is where such research is most likely found.

The study reported here appeared in the dissertation abstracts. David Jefferson (1977) matched first born white children in day care and home care environments and systematically observed their social and emotional adjustment to a novel situation, the first day of kindergarten. (monomatric refers to one mother as caregiver, polymatric refers to many caregivers, day care refers to one or more caregivers and group care) The measures he used included teacher-parent ratings, behaviorial signs of separation anxiety and an in-class coding system employing ten child-behavior categories (ex. approach to peers, sustained schoolwork, crying, smiling, clinging). He found that polymatric children equalled and surpassed monomatric children in adjustment. They tended to show less separation anxiety and more smiling. Day care children interacted less with peers than the polymatric group but did not differ from the monomatric population.

In the second portion of his study he asked teachers to designate any children who appeared to be adjusting well or having difficulty. Day care children were labeled more

frequently as significantly well-adjusted than monomatrically reared children. Polymatrically reared children were equally divided between good and poor adjustment to the first day of kindergarten.

More research is needed on the effect of day care on a child's adjustment to public school. Ideally, longitudinal studies would generate this kind of data and thus enable policy makers, teachers, and parents to better assess the long-term effects day care has on school performance.

THE EFFECT ON THE FAMILY

Jay Belsky, indicates with distress, the rarity of research on the effects of day care on parents and social institutions. Three efforts have been made with respect to these issues since the writing of Belsky's review which will be described later. He does cite, however, the findings of Golden in the New York Study (1978). Comparisons of families using group day care, family day care, or rearing their children at home revealed no significant differences between them. There were no measurable immediate or long term effects on families enrolling their children in day care in the first three years of life in terms of the families' socio-economic status, total income, income from wages, sources of income, family structure or general functioning. Although differences did occur in the long term, they were not related to the type of child care used by the family. These differences were also not present when day care mothers were compared to at-home ADC mothers, and access to infant day care did not get families off of welfare. While we can feel dismayed at the lack of positive effect day care had on these low income black families, reliable supervised low-cost child care was provided these children who did not suffer adversely from this experience as our research is indicating to us.

A study conducted in Omaha (Harper 1978) went beyond the scope of many studies by sampling 286 families, half of whom

used community based child care. Harper's purpose was to examine the impact of day care on the social development of children and family integration using measures assessing parental behavior toward the child, self concept, and identification with family adults and social behavior adjustment. Despite the fact that day care children's psychological attachment to parents diminished as the length of time in day care increased, day care did not seem to affect the primary socialization process.

Myers (1977) employed a role theoretical orientation to assess the effects on marital satisfaction of families using day care. The assumption was made that one's marital satisfaction would be affected by how each spouse's role performance measured up to their own and their partner's expectations. Data was collected through interviews of 83 families using private and government funded day care in urban and rural settings. The mother's and father's role performance, job satisfaction and satisfaction with day care were tested. The findings gave support to the theory that marital satisfaction is strongly affected by one's own role performance and the role performance of one's spouse. And, it appears that the use of day care does not negatively affect the expectations of role performance on husband and wife.

Powell (1978) in attempting to determine the nature of the interpersonal relationship between parents and caregivers

in centers produced one interesting finding related to the effect on the family. He examined the communication systems, frequency, diversity and attitudes of parents and staff in 12 Detroit centers. 212 parents and 89 caregivers from racially and economically mixed backgrounds provided data in structured interviews. One insight resulting from this study suggests that at present, the communication between parent and caregiver is so unstructured and lacking in uniformity of occurance and depth, that for the child, the world at home must seem very fragmented from the world at the center. Few direct attempts to coordinate children's socialization processes are made and most parent/caregiver interchanges are superficial at best. Longitudinal studies on the effect this lack of communication is having on families, and children in particular, are necessary.

Clearly, no conclusions can be drawn from the findings thus far.

THE EFFECT OF CAREGIVER STABILITY

The necessity for further research on the effects of caregiver stability on the child is an essential and neglected element in day care research. Surely it has effects on the child and its findings would also be relevant for administrators attempting to operate an efficient yet emotionally healthy and stable program. It also would be an attempt to isolate and evaluate one of the specific features probably contributing to quality day care. Only one study (Cummings 1978, 1980) addresses this issue specifically.

Caregiver stability is defined in terms of how long a child and caregiver have been together in the day care center. The sum total of hours spent in the center with children and not the average number of hours spent each day or the total length of time spent with each child was the important variable in stability. The purpose of Cummings research was to determine whether consistent physical presence contributed to the likelihood of child/caregiver attachments.

Two separate tests were conducted. In the first, 30 children 12-28 months old, either enrolled in the center, or with their name on the center's waiting list (home sample) were assessed on their proximity seeking preferences in a lab setting with various parent, stranger, stable caregiver (over 700 hours in the center) and nonstable caregiver (less than 299 hours) combinations. The results indicated that the

mother was preferred over the stable and nonstable caregivers. Both types of caregivers were preferred over the stranger, but children did not differentiate between stable and non-stable caregivers. This portion of the study yielded little support for the importance of caregiver stability.

In the second study, the same 30 children were observed being dropped off at the center on two days, specifically left with the stable and nonstable caregiver at different times. The results indicate that the environment was clearly critical in the children's caregiver preference. There was a definite preference exhibited by the children for the stable caregiver. This aspect of the study suggests that maximizing caregiver stability should be encouraged in planning a day care center.

In "Children at the Center", the final report of the National Day Care Study (1979) designed primarily to provide a framework for national policy in the areas of cost and administration, two center characteristics were examined - staff/child ratio and staff education. Although the findings do not specifically address the issue of caregiver stability, they do suggest standards of quality care related to the caregiver role. Without describing the very complex research characteristics of this massive study of over 50 centers throughout the country, some of the general findings will be presented. It was found that in smaller groups,

teachers engage in more social interaction with children, children show more cooperation and less hostility, and children make greater gains on standardized tests (PSI & PPVT) than in larger groups of children. In classes supervised by head teachers with child-related education/training, teachers spend more time socially interacting with children, children show more cooperation and greater task persistence, and children make greater gains in standardized tests.

These results, which offer rationale for keeping group size and ratio low and hiring qualified staff, could greatly effect policy decisions related to child care. More importantly, in this context, they indicate the value and need that exists for more research investigating the impact of caregivers on children.

CHARACTERISTICS RELATED TO SEX TYPING

Without repeating the details of studies mentioned at length earlier in this paper, this section will summarize the findings of the studies when the variant of sex was considered. In none of these studies was sex-typing the primary question addressed by the researcher.

Four studies on attachment analyzed the sex variable. In Blanchard (1979), no significant differences were reported. In Moskowitz (1977), day care males and home-care males received the most extreme score values with the two female samples receiving intermediate and similar scores. The pattern suggests that males function independently of the mother while in her presence but are appreciative of her return after separation. Home-care males were most oriented to adults, showing a high level of attention to their mother, and the most approach and avoidance of the stranger. Day care and home-care females did not differ. Cornelius (1975) found that females stayed close to their mothers more than males, particularly at four years of age. Home-care girls stayed in the close-to-mother area significantly more often than home-care boys while day care boys and girls did not differ, suggesting that day care children may be less sex-typed. Although no consistent behavior could be ascertained in Portnoy's study (1978), males cried more and showed more

resistance and avoidance of the stranger than females. Females explored more and showed more avoidance of the mother than the males. It is obvious that great inconsistency exists in the attachment literature related to sex-typing.

Four studies also attempted to produce sex-typed data for social-emotional characteristics of day care behavior. On the first day of kindergarten, boys approached peers and teachers more than girls in Jefferson's study of the social-emotional adjustment to the first day of kindergarten (1977). In Vroegh's study (1976) of homes and centers with no formal curricula, no sex differences were found on activity scores, emotional, or fine and gross motor scores. On both of Schwarz's studies (1973, 1974) no significant differences were found in social interaction, affect, or tension expressed while adjusting to a new environment.

SUMMARY

The effects of day care on the various aspects of children and their families examined in this research paper can be summarized briefly. High quality day care appears to have little harmful effect on the attachment relationship between mother and child. In the area of social development it appears that day care has little negative effect although some studies have found higher scores on positive social skills in home-reared children. Most evidence indicates that day care has a positive effect on social development and adjustment to new environments. The research also suggests that social behavior may be significantly related to the developmental age of the child.

Little positive or negative effect can be attributed to day care in the intellectual domain. With disadvantaged children, however, day care attendance appears to offset the decline in test scores usually associated with this population. Finally, no strong conclusions can be drawn from the limited research in other areas with the exception that quality day care appears to be related to caregiver stability, staff/child ratio, and level of staff education and related experience.

IMPLICATIONS

It can be safely stated that, given the extent of day care research to date, little detrimental effects of full-time day care can be sited for any age level in a university-based high-quality center. At worst, we can say no effect occurs. The social, emotional, intellectual, and physical aspects of the child do not seem to suffer as a result of separation from the mother and attendance in a high-quality center.

With these relatively positive findings in mind, we must then examine the limitations of that research, if they exist, before we can say, with great confidence, that day care is a positive institution. Unfortunately, many limiations do exist that prevent general applicability of the findings reported in this paper.

Belsky sites four limitations of research in his review and these still exist in the literature two years later. He first mentions that research has been restricted to high-quality, center-based studies of group care. Since the number of children in this country enrolled in such forms of alternative child care is very minimal, the generalizability of the research must be questioned. Much more research is necessary for children in low-income centers, profit-making centers, family day care and centers not connected to university environments. Also, no research tends to exist for children below preschool age. The effect on preschoolers needs further attention.

He further mentions that by restricting our studies to the immediate effects of day care, we have limited the practicality of the findings. Longitudinal studies are definitely a high priority. How does a day care infant function when old enough to begin first grade, fifth grade, high school?

Belsky also mentions the difficulty in obtaining comparable samples. Families using day care differ from families raising their children at home in attitudes and values. Some studies have selected their home-reared population from center waiting lists which has helped to match samples but still doesn't account for families with different value systems.

Finally, he criticized the use of lab settings for the testing environments and the use of psychological tests. This limitation raises the whole issue of the research quality being applied to day care. To date, studies have relied on the use of standardized measurements - The Bayley Infant Scales, The Ainsworth-Wittig Strange Situation Experiment, and a series of standardized intelligence tests. These tests, many of them administered in a lab setting, limit the reliability of study outcomes. These measures, oftentimes, are not sensitive enough, are culture-bound, or produce results not applicable in the natural environment. Evidence needs to be collected in the appropriate setting using more valid standardized instruments. Greater efforts

must also be made to, as mentioned before, produce longitudinal studies but with greater use of observation as a valid research tool.

Since day care research has been, in some ways, an extension of the research done on institutionalized children, which has so emphatically stated the negative effects of such care, the orientation has been to predict the "negative outcomes" of day care also. This negative aura needs to be lifted from the field in general. But research, specifically, should shift from studying the detrimental effects of day care to isolating the specific features of day care programs. This should be undertaken, particularly, in light of the lack of detrimental results attributed to day care. Here, the suggestion is being offered, that day care research be concerned with more refined hypotheses that examine elements of actual programs and truly seek to assess the quality and the effects of various levels of quality on the children and families involved.

Some specific day care features might include an evaluation of the child's approach to various settings. An attempt to analyze environments might also account for inconsistencies in the day care literature thus far. Aspects of group care environments must be isolated in order to regulate these settings appropriately. Also ripe for assessment are the effects of various academic and experience qualifications of day care personnel. In few, if any studies,

were efforts made to standardize staff personality characteristics or backgrounds.

Finally, although some attempt was made to assess the effect of day care on the family, efforts must be made to assess the effect of the home on day care experience, in particular, on the variations in research results. How do values, expectations and parent child-rearing styles effect a child's performance and adjustment to day care?

To conclude briefly, day care unquestionably makes a significant contribution to the lives of many children and their families. At this point we cannot criticize severely the effects it has on the population it serves when efforts have been made to provide careful, rational, qualitative care. We can, however, expand the positive outcomes of this child care alternative by directing effort and energy into further understanding the characteristics that go into the make-up of our child care programs. This paper suggests a direction for future research.

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